



Pre-Plugging Methane Emissions Monitoring Report

Morgan B Federal 004

Prepared by TS-Nano, Inc.

For NM Energy, Minerals and Natural Resources Department, Oil Conservation Division

PO# 52100-0000078682

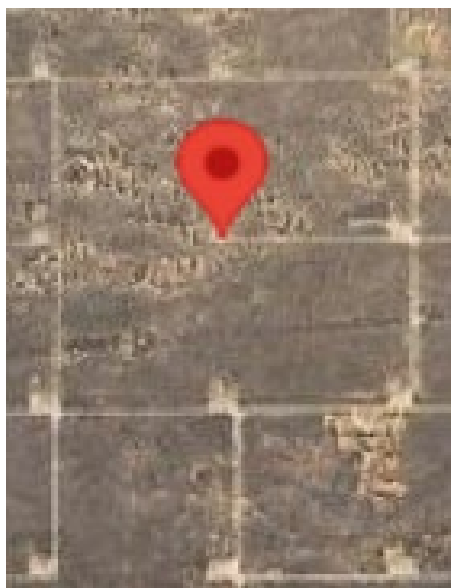
Well information

ID #: 30-041-10456

Coordinates: 33.68423, -103.54243

Name: Morgan B Federal 004

Surface Location: Roosevelt County



Measurement notes

Device used: Ventbuster device VB100-0138

Test operator: JR Molina

Gas sample taken from well: 12/31/24 14:45

Ventbuster connected to well: 12/31/24 15:22

Continuous monitoring of well flowrate, pressure,
and temperature

Hourly measurement of weather data

Ventbuster disconnected from well: 1/2/25 13:09

Initial wellhead pressure of 283 kPa (41 psi) was bled off prior to flow
measurement.

Gas sample delivered to laboratory: 1/2/25

Laboratory Name/Location: Laboratory Services / Hobbs, NM



Pre-Plugging Methane Emissions Monitoring Report

Morgan B Federal 004

Measurement data

Wellhead pressure (kPa gage)*: 283 kPa

Average flow rate (Sm^3/d): 16.596

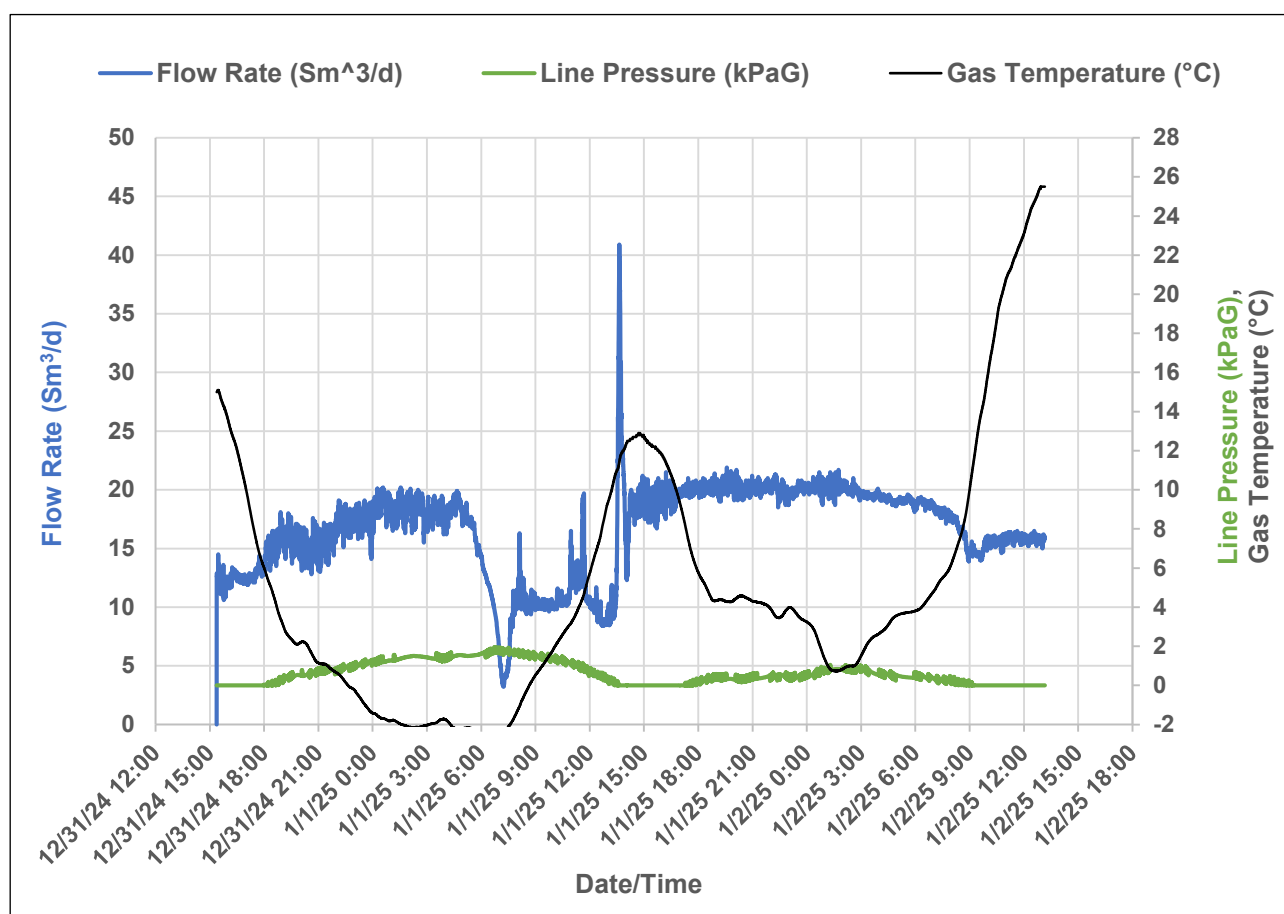
Average methane mass flow rate (g/hr)

using methane % from lab analysis: 211.47

Methane mass flowrate calculation

Variable	Unit	Value
Pressure (P)	kPaA	Std pressure, 101.3 KPaA
Volumetric flow (V)	Std m^3/day	Measured from the Unit
% methane	% (methane/gas)	Measured from lab sample
Temperature (T)	Kelvin	Std temperature, 288.13 K
Gas constant (R)	$\text{m}^3 \text{ Pa}/(\text{K mol})$	8.3144626
Molecular weight of methane (Mw)	g/mole	16.04

$$\text{Mass flow of methane} \left(\frac{\text{g}}{\text{hr}} \right) = \frac{\%, \text{methane}}{100\%} * V * P * \frac{Mw}{R T} * \frac{1000}{24}$$



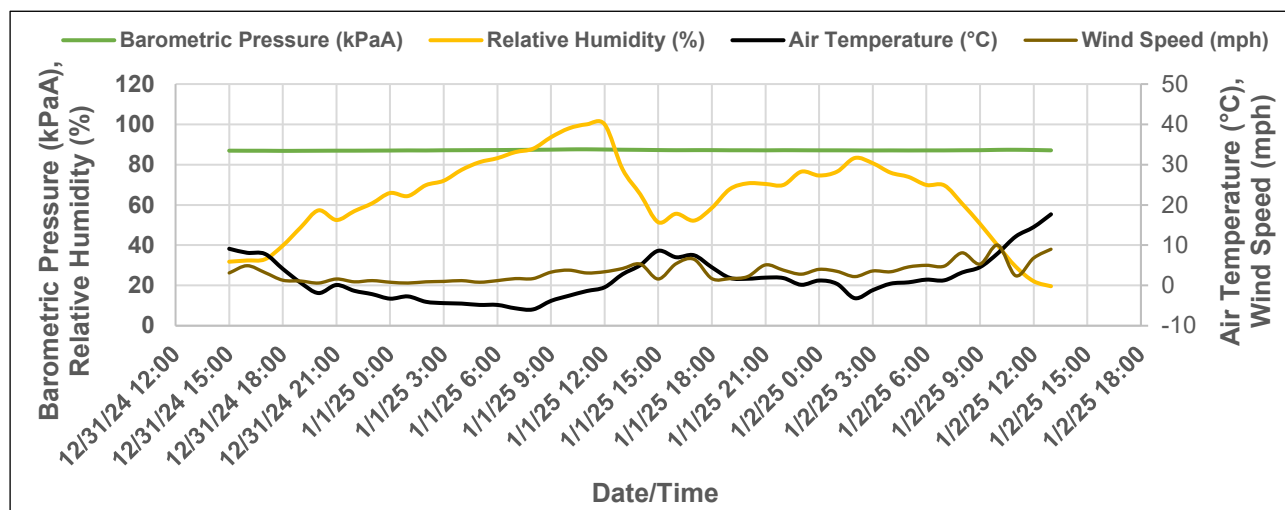
**TS-NANO**

Pre-Plugging Methane Emissions Monitoring Report

Morgan B Federal 004

Weather data

Precipitation during measurement period (in): 0.000



Date and Time	Air Temperature (°C)	Relative Humidity (%)	Barometric Pressure (kPaA)	Wind Speed (mph)
12/31/2024 15:00	9.1	31.8	86.93	3.1
12/31/2024 16:00	8.1	32.4	86.89	4.9
12/31/2024 17:00	7.8	33.0	86.89	3.2
12/31/2024 18:00	4.1	39.8	86.83	1.3
12/31/2024 19:00	0.7	48.8	86.86	1.1
12/31/2024 20:00	-1.9	57.3	86.89	0.6
12/31/2024 21:00	0.1	52.5	86.93	1.6
12/31/2024 22:00	-1.3	56.9	86.93	0.9
12/31/2024 23:00	-2.2	60.8	86.96	1.2
1/1/2025 0:00	-3.3	65.9	87.00	0.8
1/1/2025 1:00	-2.7	64.4	87.06	0.6
1/1/2025 2:00	-4.1	69.8	87.03	0.9
1/1/2025 3:00	-4.4	72.0	87.13	1.0
1/1/2025 4:00	-4.5	77.4	87.17	1.2
1/1/2025 5:00	-4.8	81.2	87.20	0.8
1/1/2025 6:00	-4.8	83.2	87.23	1.2
1/1/2025 7:00	-5.7	86.2	87.30	1.7
1/1/2025 8:00	-5.9	87.9	87.37	1.7
1/1/2025 9:00	-3.8	93.6	87.44	3.3
1/1/2025 10:00	-2.6	98.0	87.57	3.8
1/1/2025 11:00	-1.4	100.0	87.61	3.1
1/1/2025 12:00	-0.4	100.0	87.50	3.4
1/1/2025 13:00	2.8	77.8	87.40	4.2



23246G	Morgan B Federal #004	Morgan B Federal #004
Sample Point Code	Sample Point Name	Sample Point Location
Laboratory Services	2025104054	BAG
Source Laboratory	Lab File No	Container Identity
USA	USA	USA
District	Area Name	Field Name
Dec 31, 2024	Dec 1, 2024	Jan 2, 2025 11:37
Date Sampled	Date Effective	Date Received
System Administrator		Jan 11, 2025
Date Reported		
Ambient Temp (°F)	Flow Rate (Mcf)	Analyst
		Press PSI @ Temp °F Source Conditions
TS-Nano	NG	
Operator	Lab Source Description	

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	35.9620	35.962	
CO2 (CO2)	7.8030	7.803	
Methane (C1)	45.0910	45.092	
Ethane (C2)	5.5710	5.571	1.4900
Propane (C3)	3.0430	3.043	0.8380
I-Butane (IC4)	0.4290	0.429	0.1400
N-Butane (NC4)	0.8800	0.88	0.2770
I-Pentane (IC5)	0.3710	0.371	0.1360
N-Pentane (NC5)	0.3000	0.3	0.1090
Hexanes Plus (C6+)	0.5500	0.55	0.2390
TOTAL	100.0000	100.0010	3.2290

Method(s): Gas C6+ - GPA 2261, Extended Gas - GPA 2286, Calculations - GPA 2172

Analyzer Information

Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Sep 9, 2024

Gross Heating Values (Real, BTU/ft³)

14.696 PSI @ 60.00 Å°F		14.73 PSI @ 60.00 Å°F	
Dry	Saturated	Dry	Saturated
730.9	719.3	732.6	721.0

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions	
Relative Density Real	Relative Density Ideal
0.8826	0.8810
Molecular Weight	
25.5164	

C6+ Group Properties

Assumed Composition		
C6 - 60.000%	C7 - 30.000%	C8 - 10.000%

PROTREND STATUS:

Passed By Validator on Jan 13, 2025

DATA SOURCE:

Imported

PASSED BY VALIDATOR REASON:

First sample taken @ this point, composition looks reasonable

VALIDATOR:

Ashley Russell

VALIDATOR COMMENTS:

OK

Released to Imaging: 1/23/2025 5:25:36 PM

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

DEFINITIONS

Action 424367

DEFINITIONS

Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 424367
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

DEFINITIONS

The Orphan Well Mitigation Activity (OMA) forms are a subset of the OCD's forms exclusively designed for activities related to State of New Mexico's contracted plugging and reclamation activities. Specifically, these forms are used for orphan wells or associated facilities which are in a "Reclamation Fund Approved" status. This status represents wells or facilities where the OCD has acquired a hearing order allowing the OCD to perform plugging or reclamation on wells and associated facilities that no longer have a viable operator to perform the necessary work. These forms are not to be utilized for any other purpose.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 424367

QUESTIONS

Operator: RIDGEWAY ARIZONA OIL CORP. 575 N. Dairy Ashford Houston, TX 77079	OGRID: 164557
	Action Number: 424367
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

QUESTIONS

Prerequisites	
[OGRID] Well Operator	[164557] RIDGEWAY ARIZONA OIL CORP.
[API] Well Name and Number	[30-041-10456] MORGAN B FEDERAL #004
Well Status	Active

Monitoring Event Information	
<i>Please answer all the questions in this group.</i>	
Reason For Filing	Pre-Plug Methane Monitoring
Date of monitoring	12/31/2024
Latitude	33.68423
Longitude	-103.54200

Monitoring Event Details	
<i>Please answer all the questions in this group.</i>	
Flow rate in cubic meters per day (m³/day)	16.60
Test duration in hours (hr)	45.8
Average flow temperature in degrees Celsius (°C)	4.9
Average gauge flow pressure in kilopascals (kPag)	0.6
Methane concentration in part per million (ppm)	450,900
Methane emission rate in grams per hour (g/hr)	211.47
Testing Method	Steady State

Monitoring Contractor	
<i>Please answer all the questions in this group.</i>	
Name of monitoring contractor	TS-Nano, Inc.